

A control apparatus is provided for a vehicle including an internal combustion engine and a continuously variable transmission capable of controlling an output speed of the engine. A controller of the control apparatus determines a first operating point at which a total fuel consumption amount is minimized as an optimal operating point, such that the total fuel consumption amount is obtained by adding an amount of a fuel consumed by an exhaust purifying device disposed in an exhaust system to an amount of a fuel consumed by the engine for generating a required output. The controller then controls an engine load and also controls a speed ratio of the transmission so that the engine operates at the optimal operating point.

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